The importance of sense of coherence when implementing blended learning environments

Dau, Susanne

Publication date:
2013

Document Version
Early version, also known as pre-print

The importance of sense of coherence when implementing blended learning environments

Susanne Dau
Lecturer at University College North (UCN) and Ph.D. student, Aalborg University, Department of Communication, Denmark
sud@hum.aau.dk

Abstract

Constraints in the implementation of models of blended learning can be explained by several causes, but in this paper, it is illustrated that lack of sense of coherence is a major factor of these constraints along with the referential whole of the perceived learning environments. The question examined is how activation of models of blended learning in undergraduate education for teacher and radiograph affects the knowledge development. The empirical data consists of data from surveys as well as focus group interviews and some observation studies. These data are analyzed and interpreted through a critical hermeneutical process of prefiguration, configuration and refiguration. The findings illustrate significant importance of sense of coherence among participants as a condition for implementing new designs and new learning environments.

1. Introduction

Knowledge development is an important area of research in connection to introduction and development of models for blended learning, since several studies indicate that it is essential that students are given the opportunity to acquire the competences to do so, in a modern and non-static society constantly evolving and requiring continuous knowledge development [1][2]. It means that competences have been given a prominent role in the descriptions of what students should be able to achieve throughout the program [2]. When turning perspective to the learning process and learning outcome as the primary, the potential of blended learning in higher education, is confirmed by several studies [1] [3]. Studies stress that the development of knowledge can be achieved through the use of blended learning in an educational context. For example, it has been assumed that using CSCL as part of blended learning will support social cognitive processes of sharing of knowledge and knowledge building [4] [5]. In the matter of the learning and learning outcomes also comparative studies illustrate evidence, that there are several advantages of blended learning compared to more traditional forms of teaching [1]. Potentials such as empowerment and joint development are documented, but at the same time, studies point to stress factors related to communication and learning spaces in distanced and blended courses [6] [7] [8]. Other studies point out, that students who are not as familiar with the use of technology can experience anxiety, fear and frustration [9]. A survey conducted by Garrison and Vaughan of students feedback on the most effective and least effective performance of ICT in blended courses clearly showed, that the top scorer of the least effective course turned out to be those, where there were no clear expectations, structure, organization and direction [10]. As the knowledge development is influenced by perceived lack of coherence in process of implementation of blended learning, it becomes of significant relevance to reveal the circumstances around the sense of coherence in this process.

I will therefore enlighten the latter through elucidation of empirical data, but first a short introduction to the case, the theory in use as well as design and methodology of research underlying this, aiming to answer the research question and in particular: How is sense of coherence perceived among students and to what extend does it influence learning and knowledge development among those students?

2. Implementations of model of blended learning at University College North (UCN), Denmark

Two undergraduate programs at UCN should implement models of blended learning in autumn 2012 at education of radiography and at teachers' education. The aim of the implementation of blended learning at UCN, was to achieve more mobility among students in the areas by offering educations in a more flexible form, by use of blended learning. Students were offered part time study at home or at educational stations nearby home and part time at

UCN in the main city of Aalborg. Also periods of vocational training in practice could take place near their home city (a secondary purpose was to maintain and develop a competent workforce in rural areas). The target groups were therefore adult students situated in rural areas, with strong connection to the local place, but those admitted to the education turned out to be younger and more mobile than expected. Therefore the use of the educational stations in rural areas wasn´t taking into use, as most students moved towards the main city or preferred to study from home, when they didn´t participate at UCN. The particular settlement of the models was developed by lecturers associated with the educations.

Among the two educations there were some differences. In education of radiography, they had traditions of settlement of blended courses, as the education has always had an intake from large areas of the country. This was not the case with the teachers' education. They had a long tradition of face-to-face instruction, even though one of the lecturers had some experiences of on-line educations related to a specific Flex-teacher education. So, in teachers' education the lecturer with experiences of Flex-teacher education worked together with a traditional lecturer in the planning of the model of blended learning. In radiography, all lecturers were involved in the development. The models of blended learning was characterized by these differences, as the teachers model seemed more fragmented and related to certain disciplines and subjects, where in radiography the whole course were planned as a blended coherent process.

3. Sense of coherence related to knowledge development

This research argue for the use of Antonowsky´s [11] theory of sense of coherence (SOC), since there are several studies that emphasize stress and coping as a factor that should be taken into account in the organization of a blended learning course [7]. However, I am well aware that it is prepared for another context; health science. The theory is manufactured and tested in several health educational contexts and withdraws three key concepts in relation to the individual's ability to cope with stress, namely; manageability, comprehensibility and meaningfulness. SOC is related to general resistance resources as coping strategies, social support, identity, cultural stability etc., and is both shaping outcome and is shaped by life experiences in a balance between under-load and overload. SOC reflects a person´s respond to a stressful situation and is a highly validated theory [12]. As the latter is a matter in implementation of blended learning, I claim that the theory is of importance in implementation of new models in educations, even though the students aren´t afflicted by diseases, they are still in a situation where stress and anxiety is underlying [9]. SOC and students coping is significant, as it regards the individual's ability to handle new situations where transformative learning is acquired. Transformative learning might involve stressors, as it means a change in identity [13] and thereby a thread towards the stability of the self and thus the resistance resources. On the other hand it is learning, involving internal learning processes as well as external interaction processes [14], which are acquired if students should be qualified for knowledge development of the profession, as learning and knowledge development cannot be separated. The qualifications acquired to develop knowledge in the profession involve metacognitive skills, reflection and strong academic competences. Those are qualifications, that are developed through transformative learning and in a balance between under-load and overload, or as Vygotsky [15] mentions it; in the zone of proximal development.

4. Design and methodology

This research is conducted as a follow up on the implementation of models of blended learning, with the use of case study and a pragmatic approach of mixed methods [16], where the qualitative parts has the highest impact. The design consisted of: One survey posted to all students at the two educations (N=35) with a response rate of 63%. 7 focus group interviews with, respectively; students at each education, lectures at each education, practitioners at each education and mentors connected to the educational stations. In addition, observation study of courses of evaluation in teachers' education and observation study of students (teachers) at a public school.

The data collection of the survey was conducted through on-line questionnaires structured primary primarily around the Likert scale [17], supplemented by open rubrics in which students could add comments. Focus-group interviews were organized in familiar `surroundings´ and with a narrative approach by use of themes and open ended questions [18]. Each interview lasted about one hour, and all interviews were fully transcribed. Observation studies were conducted three times, lasting from two to six hours, taking notes continuously.

The analysis and interpretation were structured through a critical hermeneutical approach, founded in Ricoeur´s [19][20][21] use of the hermeneutic arch. Empirical data were analyzed and interpreted by prefiguration (mimesis 1), configuration (mimesis2) and refiguration (mimesis 3). In the prefigurative analysis, the text derived from the empirical data appears in its unstructured form with facts, quotes, metaphors and sentences. In

configuration these data are structured around plots and includes metaphors, where parts of the empirical data are put into order through a kind of thematization around main plots as a first distanciation. Finally, refiguration adds further distance by use of critical perspectives and explanations. In refiguration the interpretation points toward a yet unknown future, still referring to the pre- and configurative parts, but in a more fictive and still validated manner.

5. Analysis and interpretation

The analysis is structured around the three levels of mimesis as mentioned above, but as this paper has limited space only data related to sense of coherence regarding learning and knowledge development are retrieved.

5.1 Prefiguration and configuration – mimesis 1 and 2

Table 1 illustrates the prefigurative and configurative part, and below table 1 the refigurative interpretation appears. The narratives configured around the plots is illustrated in the second column of table 1 and refers to the whole of the empirical data, but complete narratives will not appear in this article, as these take up too much space, which is beyond this papers extent. The quotations (table 1, column 1) are retrieved from focus group interviews (FG), survey (SV) and the observation study (OS).

Table 1: The analysis and interpretations as prefiguration and configuration

Prefiguration – mimesis 1	Configuration – mimesis 2: Main plots and plots below
FG: "Here at UCN you are 100% focused, at home only 10%" (Teacher students, p. 32) " …so many thing are lost, if you just sit (using Skype)…I wouldn´t feel that I have a team, and I wouldn´t feel, that I belong to the team" (Teacher students,, p. 31)	Environments matters - Focus - Distraction
FG: "Sitting at home… there are things that constantly distracts you" (Student radiography p.9)	
"It means a lot, how you are introduced" (Teacher students, p. 40) "You've got to be entrepreneurial and create some structures ... do some things that needs to be addressed in period of study….if we do not set frames, as we have done here, the afternoon series on television takes their attention" (Lecturer teachers education, p. 24) "They (students) are just started and should be taken care of, and there must be structure" (Lecturer teachers education, p. 25) "It demands (discussion on-line), that you as lecturers structure it, and gives them (students) deadlines and tasks,…it demands imposing requirement" (Lectures at education of radiography, p. 13) "So it about …structure and connections" (Lectures at education of radiography, p. 21) OS: "We need better introduction to lectures and events" "There need to be more conversations among lecturers about the planning of lessons" "We need to know the purpose of the education and lessons before the holding" "It works well with a well-planned schedule" "We need a continuous thread in the subjects and courses"	Structure matters - Naming and framing - Confusion learning environment
SV: "It is (blended learning) fine, but also confusing. We still really don't know what FlexVid is"	
FG: "I feel the letter vas in Russian (letter regarding FlexVid) and after the four first sentences, you gave up" (Teacher students, p. 33)	Clarity matters - Lack of understandable information - Unclearness in tasks and assignments - Invisible learning environment
FG: "I think the problem is, that we didn´t know, whether it was proper (the assignment), it just had to be done" (Teacher students, p.5) "It is difficult, if not the teacher ´puts it in a nutshell´…I think he (lecturer) makes far too open tasks, it put obstacles to us, he might limit it a bit" (Teacher students, p.7) OS: "Cannot find the assignments and homework at the learning platform" "Avoid confusion around homework and task in subject we haven´t been taught about" "Cut it ´in a nutshell´"	
FG: "So I was very puzzled at first, …what should we use it for" (Student radiography p. 20) "It frustrates me, that this project (educational stations) seems invisible" (Mentors, p.12)	
FG: " It is more easy to have a conversation in here (UCN),…I get so annoyed using technic...yes, and you are used to it (meting face-to-face) form high school…a kind of security in ..(studying at UCN)" (Student radiography, p. 7) "I think when you come here as a freshman … referring only back to how	Experiences matters - Referential self

one's own teaching has been" (Practitioners at public school, p. 10)	- Attitudes
FG: "It has meant that we were incredibly negative from the start ... I thought it was stupid…" (Teacher students, p. 8) "I feel like, I am in high school again, and you feel you are reduced to something, like you're 15 again" (Teacher students, p. 9)	
SV: "I think it is more inconvenient than useful"(quotes from survey) FG: "It is easier to assess when facing each other, than if it's just something, that is written (on-line)" (Teacher students p.29) "…the experiment it legitimizes it, we are ´suffered in the same boat`, let us try to see what happens" (Lecturer teachers education,p.28) "It's mega hassle - with computers and everything like that" (Practitioners at public school, p. 11)	Convenience matters - (In)convenience
FG: "It demands facilitation. There is no doubt, that the discussion is only good if you are constantly scaffolding the persons involved" (Lectures at education of radiography, p. 15) "…try to see if we can get them to feel comfortable in the educational environment" (Mentors p. 10)	- Scaffolding
FG: "We are going out in practice (public school) in a month, I don't feel that we have achieved some proper tools to act" (Teacher students, p.18) "..I think you can see a connection to what you have learnt (in vocational training at the hospital)...what to make use for…and suddenly meaning arise,...it is motivating" (Student radiography p. 13) "…to put the professional knowledge in the context of something they already know" (Lectures at education of radiography, p.22) "It is very abstract before, they have even been out and seeing things" (Lectures at education of radiography, p. 23) "..it gives them "a taste" (to develop practice though their projects) …that it makes sense for them...as they can see it in use" (Practitioners at hospital, p. 24) " ..it must fit together theory and practice" (Practitioners at hospital, p. 27) "It seems like there is a big gap between getting from college and so here, ... it comes as a surprise to them sometimes" (Practitioners at public school, p. 14) OS: "We need more practice related to the theoretical"	Linkage matters - Linkage of theory and practice as a matter of understandability

5.2. Refiguration - mimesis 3

The refigurative interpretation is pointing towards the future by adding empirical and theoretical explanations and by the use of critical perspectives.

As students argue, their learning is dependent of a high degree of sense of coherence, both in terms of coherence with experiences of former learning in e.g. high school and in present situations where they need to have it "cut in a nutshell" and related to practice. In the configurative analysis plots have risen, which illustrates this claim.

Regarding the environment and space of learning, there seems to be a high priority of face-to-face environment as a meaningful and manageable learning environment, as conversation and knowledge seems easier to assess. Otherwise, the management of studying at home is disrupted, as the environment might lead to other kinds of unrelated daily living activities. The process of learning is thereby primary linked to UCN, as this institutions offers space for both focusing and a sense of belonging: "Here at UCN you are 100% focused, at home only 10%" and "…so many thing are lost if you just sit (using Skype)…I wouldn´t feel that I have a team, and I wouldn´t feel that I belong to the team" (Teacher students,, p. 31-32). The lack of focusing in use of on-line media at home is to some extent explained by the distractions in the environment, but this is a matter of concern as students might prevent themselves from achieving some essential competences to manage self-directed learning and transformative learning, if they from the beginning of the courses dismiss it as a place for self-paced and on-line learning.

In the matter of structure, it seems to be significant, that students' sense of coherence is dependent on a clear structure in planning and organization of the lectures and courses, which appears especially when asking lecturers: "So it is about …structure and connections" (Lectures at education of radiography, p. 21). The framing and naming is acquired if the students should experience it as meaningful: "We need a continuous thread in the subjects and courses" (quote from OS). On the other hand it leads to confusion and a lack of understanding: "It is (blended learning) fine, but also confusing. We still really don't know what FlexVid is" (quote from survey). If blended learning is perceived as confusing, then it indicates a lack of sufficient SOC which might hinder students access to learning of more transformative character, as it requires that students can manage, comprehend and see the meaning, if they are to create challenges that involves development of their identity. If the designed learning environment makes them confused, then it probably will activate defense mechanisms for protection of the student's self, and no progression is immediately available.

Clarity is a concept that is closely related to structure. The students' comprehensibility depends on the degree of clarity not only in aims and goals, but also in assignments. The students wish for clear guidance: "Cut it in a nutshell" (quote from OS).

This is a matter of concern if students are to manage educational demands, otherwise it makes students insecure which might be a stressor: "I think the problem is that we didn´t know, whether it was proper (the assignment)" (Teacher students, p.5). The students' argumentation is that it could limit their process of learning. Another problem that seems obvious is the lack of clearness about the educational stations and their function, as they are perceived as invisible or of non-use. If they aren´t visible, useful and seem to be meaningless, then they cannot be managed or comprehended. And finally they do not influence the processes of learning as intended.

Identity is a matter, both in transformative learning and in SOC. While identity is as a base of stability and a foundation in SOC, it is contrary in transformative learning, where development of identity is a condition for the transformation [12]. Thus, it is both a prerequisite, and a basis for learning and transformation. The referential whole of students' experiences and attitudes are related to their management of educational affairs. On the one hand the students refer to their former experience with a kind of distancing; "I feel like, I am in high school again, and you feel, you are reduced to something, like you're 15 again" (Teacher students, p. 9) but on the other hand it is exactly a heritage, that they carry themselves: "I think when you come here as a freshman … referring only back to how one's own teaching has been" (Practitioners at public school, p. 10). In implementation of new kinds of blended learning environments, students' referential kinds of habitus therefore must be taken into consideration, as possible constraints and a challenge.

Convenience is a matter of concern among students, and mentors also highlight the students' comforts, while a lecturer mentions the importance of facilitation: "It demands facilitation. There is no doubt, that the discussion is only good, if you are constantly scaffolding the persons involved" (Lectures at education of radiography, p. 15). Even though scaffolding seems to be of obvious value [22][23], there might also be some value of pushing students away from their comfort zone. However, it acquires a high degree of confidence. So, it might be necessary to balance between overload and under-load [12] in the zone of proximal development [15] if students shall achieve competences to develop the profession.

Linkage is also of great matter in the perceived sense of coherence among informants; especially the linkage between theory and practice seems to be of value for the students' comprehensibility. The relatedness of practice and examples from practice gives meaning, when dealing with concept in the academic field: "We need more practice related to the theoretical" (quote from OS). In return, the relation of theory to practice is also of significance, as students' experiences from practice are valued in the following theoretical education at UCN: "…to put the professional knowledge in the context of something they already know" (Lectures at education of radiography, p.22). Theory becomes meaningful and comprehensible when it´s connected to the vocational parts of education, and thereby the students are increasingly able to manage the learning of new concepts and skills.

The refigurative interpretation points as a whole toward SOC as a foundation for transformative learning and further as a foundation of professional knowledge development, thus transformative learning also might involve some kinds of stressful processes, as identity undergoes some changes in these kinds of learning processes.

6. Finding and discussion

Even though it is well documented that; structure [8] as well as a clear context [24] and transparency in education and training [25] and clarity between intentions and outcome [26], is of significant importance , it hasn´t in prior educational research been related to the concept of SOC, as it is the case in this paper.

This research paper finding confirms the significance of SOC as a foundation for learning, transformative learning and knowledge development. Therefore it becomes a matter of concern when implementing new kinds of model of learning and particular blended learning, in undergraduates' educations. The central plots that this paper emphasizes, regards the role of learning environments, structure, clarity, convenience, experience and linkage as a matter of concern when implementing blended learning in undergraduate educations. As implementation of new models are expected to be a stressor by those involved [27], it becomes essential to look at students SOC, as this might provide an indication of how conditions of offered approaches and initiatives are measured, and to which degree students manage to cope and make sense of the learning environments. It calls for continuous assessments along implementation of models, with SOC in mind.

7. References

[1] Rovai, A.P. &Jordan, H.,"Blended Learning and Sense of Community: A comparative analysis with traditional and fully online graduate courses", International Review of Research in Open and Distance Learning, vol. 5, No. 2, August 2004.

[2] Schaap, H. et. al., "Students´ personal professional theories in computer-based vocational education: the construction of personal knowledge through internalization

and socialization", Journal of Vocational Education and Training, vol. 61. No. 4, 2009, pp. 481-494.

[3] Hisham D. et al., "Blended learning (BL) as pedagogical alternative to teach business communication course: Case study of UUM Diploma Program", Turkish Online Journal of Distance Education-TOJDE, vol 13, No.3, Article 21, July 2012.

[4] Lipponen, L., "Toward knowledge building discourse: From facts to explanations in primary students 'computer mediated discourse", Learning Enviroment Research, 3, 2000, pp. 179-199.

[5] Scardamalia M., et. al.,"The CSILE project: Trying to bring classroom into World 3". In: K. McGilly (Ed) Classroom lessons: Integrating cognitive theory & classroom practice, MIT Press, Cambridge, MA, 1994, p. 201-228.

[6] Saunders, N.G. et al., "Students perspectives: Responses to Internet Opportunities in a Distance learning Environment". Paper Presentation, The Annual Meeting of the Mid-West Research Association, Chicago, Illinois, 1997.

[7] Divaris, K. et. al., "The academic environment: the students' perspective". European journal of Dental Education, 12, 2008, pp. 120-130.

[8] Guzdial, M. og Turns, J., "Effective Discussion through a Computer-Mediated Anchored Forum". Journal of learning science, 9, 2000, pp. 437-49.

[9] Antonovsky, A., Unraveling The Mystery of Health - How People Manage Stress and Stay Well Jossey-Bass Publishers, San Francisco, 1987.

[10] Garrison, D. R., & Vaughan, N.D., Blended learning in higher education. Jossey-Bass Publisher,San Francisco, 2008.

[11] Voulo, J., "An exploration of the experiences of mature learners (post-qualified nurses) using a managed learning environment for the first time". Blended Learning In Practice, March, 2010, pp. 8-19.

[12] Eriksson, M. & Linström, B.,"Validity of Antonovsky's sense of coherence scale: a systematic review". Journal of Epidemiol Community Health, 59, 2005, pp. 460–466.

[13] Illeris, K.. Læring – aktuel læringsteori i spændingsfeltet mellem Piaget, Freud og Marx. Roskilde Universitetsforlag, Narayana Press, Gylling, 2000.

[14] Illeris, K.., Transformativ læring og identitet, Samfundslitteratur, Nayana Press, Gylling, 2013.

[15] Vygotsky, L., Mind in society: The development of higher psychological processes. Harvard University Press, Cambridge, 1978.

[16] Johnson, RB. & Onwuegbuzie, A.J., "Mixed methods research: A research paradigm whose time has come", Educational Researchers, vol 33, No 7, 2004, pp. 14-26.

[17] Likert, R. "A Technique for the Measurement of Attitudes", Archives of Psychology 140, 1932, pp. 1–55.

[18] Halkier, B., " Fokusgrupper". In. Brinkmann, S. & Tanggaard, L. (Ed). Kvalitative Metoder en grundbog. Hans Reitzels Forlag, Viborg, 2010.

[19] Ricoeur, P., The Rule of Methaphor. (Czerny, R., McLaughlin, K. & Costello, J., Trans.). Toronto Press. Toronto, 1977.

[20] Ricoeur, P., Time and Narrative, (vol. 1). (McLaughlin, K. & Pellauer, D. Trans.) University of Chicago Press, Chicago, 1984.

[21] Ricoeur, P., The conflict of interpretation. The Abalone Press, Great Britain, 1989.

[22] Hansen, J.T, Nielsen, K, Stilladsering – en pædagogisk metaphor, Folaget Klim, Århus, 1999.

[23] Buus, L. "Scaffolding Teachers Integrate Social Media Into a Problem-Based Learning Approach?" The Electronic Journal of e-Learning, vol 10, No 1, 2012, pp. 13-22.

[24] Bruner, J., The selected works of Jerome S. Bruner, Routledge, New York ,NY, 2006.

[25] DET., Blended learning, NSW Department of Education and training, 2003.

[26] Johnson, M., Cowie, B., & Khoo, E., Exploring e-learning practices across the disciplines in a university environment. Teaching Learning Research Initiative Wellington, New Zealand, 2011.

[27] Jung, I., Kudo, M. & Choi, S.-K. (2012),"Stress in Japanese learners engaged in online collaborative learning in English", British Journal of Educational Technology, 43, 2012, pp. 1016–1029.